

Storm Data and Unusual Weather Phenomena - July 2012

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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IOWA, Southwest

(IA-Z069) POTTAWATTAMIE, (IA-Z079) MILLS, (IA-Z080) MONTGOMERY, (IA-Z090) FREMONT, (IA-Z091) PAGE

07/03/12 13:00 CST	0	Excessive Heat
07/07/12 19:00 CST	0	

(IA-Z043) MONONA, (IA-Z055) HARRISON, (IA-Z056) SHELBY

07/03/12 15:00 CST	0	Heat
07/06/12 20:00 CST	0	

A large stagnant upper level high pressure system brought a period of prolonged hot temperatures to eastern Nebraska and southwest Iowa surrounding the July 4th Holiday. Afternoon highs reached the upper 90s to around 105 during this period and dew point temperatures in the 60s to lower 70s produced heat index values that consistently rose into the 103 to 110 degree range each afternoon and early evening. Nighttime lows in the 70s to near 80 provided little relief to the region. The area from Council Bluffs southward generally had the higher heat index values during this time consistently reaching 105 to 110 degrees each afternoon from the 3rd through the 6th. The four southwest Iowa counties south of Pottawattamie county continued with the excessive heat values on the 7th as well.

HARRISON COUNTY --- 0.9 NE WOODBINE [41.74, -95.71]

07/14/12 15:25 CST	0	Hail (0.88 in)
07/14/12 15:25 CST	0	Source: Trained Spotter

Most of the hail was dime-size and smaller, but a few stones reached around nickel-size. The hail was accompanied by winds around 50 mph which downed one small tree limb in the area.

Modestly unstable conditions developed over western Iowa during the afternoon of July 14th as temperatures climbed into the upper 90s along with dew point temperatures in the 60s. Very isolated storms developed along a north of a weak wind shift line that stretched from northeast Nebraska into southwest Iowa. One storm in western Iowa dropped hail, a few that reached nickel-size, in the Woodbine area.

(IA-Z043) MONONA, (IA-Z055) HARRISON, (IA-Z069) POTTAWATTAMIE, (IA-Z079) MILLS, (IA-Z080) MONTGOMERY, (IA-Z090) FREMONT, (IA-Z091) PAGE

07/17/12 14:00 CST	0	Heat
07/26/12 19:00 CST	0	

A large dome of high pressure aloft brought a prolonged heat wave to eastern Nebraska and western Iowa. High temperatures during the stretch of hot weather consistently climbed into the upper 90s to a little over 100 degrees, peaking on July 22 through the 25th when highs climbed to 100 to 105 degrees over much of the region. Most locations had 4 to 7 days during this stretch when the high temperature climbed above 100 degrees. Dew points during the stretch of hot weather were not excessively high for the season, generally in the 60s and even some 50s during the hottest part of the day, thus heat index values were not that much different than the actual temperatures at peak heating. Morning lows did drop off into the 60s several mornings over this time, which provided some early day relief from the heat early in the event, however toward the end lows were more in the 70s and Omaha Eppley even had one morning that got no cooler than 84. Several record highs and a few record warm minimum temperatures were set during the heat wave. The heat wave was tempered somewhat late on the 26th as a cool front brought a shift to northwest winds and scattered thunderstorms. The rain for some areas was the first measurable precipitation for the month, but many locations received little or none continuing one of the driest Julys on record up to that point.

(IA-Z043) MONONA, (IA-Z055) HARRISON, (IA-Z056) SHELBY, (IA-Z069) POTTAWATTAMIE, (IA-Z079) MILLS, (IA-Z080) MONTGOMERY, (IA-Z090) FREMONT, (IA-Z091) PAGE

07/24/12 00:00 CST	0	Drought
07/31/12 23:59 CST	0	

Record or near record heat and dryness intensified drought conditions over western Iowa during July. Rainfall which was already deficient for the season going into July, became even more sparse during the month with some sites recording less than 1/2 inch. In addition, high temperatures consistently rose above 95 degrees with many sites recording at least 5 days with highs above 100 in July. The persistent heat and dry weather caused many rivers to drop to very low flows. The drought also caused some local wells to dry up or go to very low flow rates which caused some municipalities to begin voluntary or mandatory water restrictions. According to the U.S. Drought Monitor, drought conditions reached the Severe stage by July 24th across all of western Iowa. The drought in Iowa and surrounding states caused some crop prices to reach record or near record levels in July, especially corn and soybeans. According to the USDA by the end of July 46% of the corn crop and 34% of the soybean crop was considered poor or very poor. The drought continued and intensified into August.

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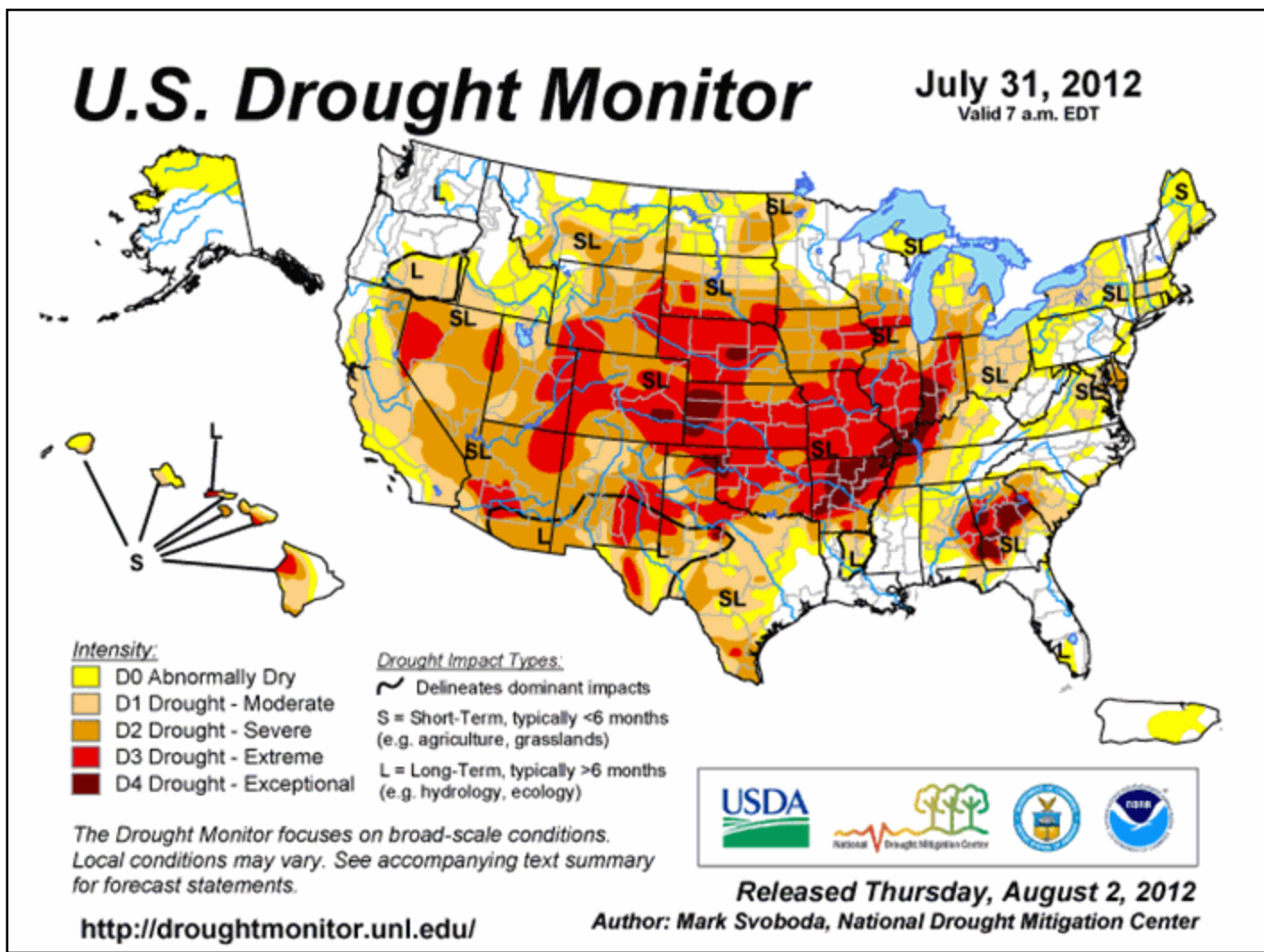
Location

Date/Time

Deaths &
Injuries

Property &
Crop Dmg

Event Type and Details



Drought Conditions Across the U.S. on July 31, 2012.

PAGE COUNTY --- 0.3 NW BLANCHARD [40.58, -95.22]

07/25/12 19:50 CST

0

Thunderstorm Wind (EG 50 kt)

07/25/12 19:50 CST

0

Source: Public

Thunderstorm wind gusts tore the roof off of a horse barn.

Isolated thunderstorms developed along a weak cool front late in the afternoon of July 25th. Temperatures around 100 and dew point temperatures in the 60s created moderately unstable conditions ahead of the front. Wind shear was weak and the thunderstorms outflow quickly cutoff any inflow weakening the storms. However, before they weakened a few storms produced severe winds.

POTTAWATTAMIE COUNTY --- 4.9 ESE BENTLEY [41.35, -95.54], 2.2 WSW OAKLAND [41.31, -95.44]

07/26/12 15:15 CST

0

Hail (1.25 in)

07/26/12 15:29 CST

0

Source: Emergency Manager

Approximately 50 acres of crops were completely flattened in an area approximately 2.5 miles long and 1 mile wide centered near 340th and Juniper Rd. In this area the hail covered the ground white with a few stones nearly half dollar-size and was accompanied by winds at least at 40 mph. Otherwise damage was spotty. Heavy rain also accompanied the thunderstorm reducing visibility to a quarter mile or less along Highway 6 for a short period of time. In Oakland, a report of 0.80 inches of rain fell in 15 minutes.

MONTGOMERY COUNTY --- 1.7 SW STENNETT [41.06, -95.22]

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/26/12 15:53 CST		0	Hail (1.75 in)
	07/26/12 15:53 CST		0	Source: Emergency Manager

MONTGOMERY COUNTY --- 1.7 NW STENNETT [41.10, -95.22]

07/26/12 15:55 CST	0	Hail (1.00 in)
07/26/12 15:55 CST	0	Source: Law Enforcement

MONTGOMERY COUNTY --- 0.9 SE RED OAK [41.01, -95.22]

07/26/12 16:12 CST	0	Hail (1.00 in)
07/26/12 16:12 CST	0	Source: Law Enforcement

PAGE COUNTY --- 2.3 SSW BETHESDA [40.80, -95.12]

07/26/12 16:41 CST	0	Hail (1.00 in)
07/26/12 16:41 CST	0	Source: Law Enforcement

A few thunderstorms developed along a very weak cold front over southwest Iowa. Moderate instability was in place with surface dewpoints in the upper 60s to lower 70s south of the front. Once convective temperatures were reached, a few severe thunderstorms developed.

NEBRASKA, East

(NE-Z034) BURT, (NE-Z045) WASHINGTON, (NE-Z052) DOUGLAS, (NE-Z053) SARPY, (NE-Z067) CASS

07/03/12 14:00 CST	0	Excessive Heat
07/06/12 20:00 CST	0	

(NE-Z011) KNOX, (NE-Z012) CEDAR, (NE-Z015) THURSTON, (NE-Z016) ANTELOPE, (NE-Z017) PIERCE, (NE-Z018) WAYNE, (NE-Z030) BOONE, (NE-Z031) MADISON, (NE-Z032) STANTON, (NE-Z033) CUMING, (NE-Z042) PLATTE, (NE-Z043) COLFAX, (NE-Z044) DODGE, (NE-Z050) BUTLER, (NE-Z051) SAUNDERS, (NE-Z065) SEWARD, (NE-Z066) LANCASTER, (NE-Z068) OTOE, (NE-Z078) SALINE, (NE-Z088) JEFFERSON, (NE-Z089) GAGE, (NE-Z090) JOHNSON, (NE-Z091) NEMAHA, (NE-Z092) PAWNEE, (NE-Z093) RICHARDSON

07/03/12 15:00 CST	0	Heat
07/07/12 19:00 CST	0	

A large stagnant upper level high pressure system brought a period of prolonged hot temperatures to eastern Nebraska and southwest Iowa surrounding the July 4th Holiday. Afternoon highs reached the upper 90s to around 105 during this period and dew point temperatures in the 60s to lower 70s produced heat index values that consistently rose into the 102 to 108 degree range each afternoon and early evening. Nighttime lows in the 70s to near 80 provided little relief to the region. The highest heat index values over the area during this time were mainly the counties that bordered the Missouri River from the Plattsmouth area north to Tekamah. Locations south and west generally had a little lower dew point temperatures at peak heating. However, the high heat values stretched into July 7th across far southeast Nebraska and that area had higher dew point values than earlier in the event which allowed heat index values to climb to around 105 to 110 degrees.

(NE-Z011) KNOX, (NE-Z012) CEDAR, (NE-Z015) THURSTON, (NE-Z016) ANTELOPE, (NE-Z017) PIERCE, (NE-Z018) WAYNE, (NE-Z030) BOONE, (NE-Z031) MADISON, (NE-Z032) STANTON, (NE-Z033) CUMING, (NE-Z034) BURT, (NE-Z042) PLATTE, (NE-Z043) COLFAX, (NE-Z044) DODGE, (NE-Z045) WASHINGTON, (NE-Z050) BUTLER, (NE-Z051) SAUNDERS, (NE-Z052) DOUGLAS, (NE-Z053) SARPY, (NE-Z065) SEWARD, (NE-Z066) LANCASTER, (NE-Z067) CASS, (NE-Z068) OTOE, (NE-Z078) SALINE, (NE-Z088) JEFFERSON, (NE-Z089) GAGE, (NE-Z090) JOHNSON, (NE-Z091) NEMAHA, (NE-Z092) PAWNEE, (NE-Z093) RICHARDSON

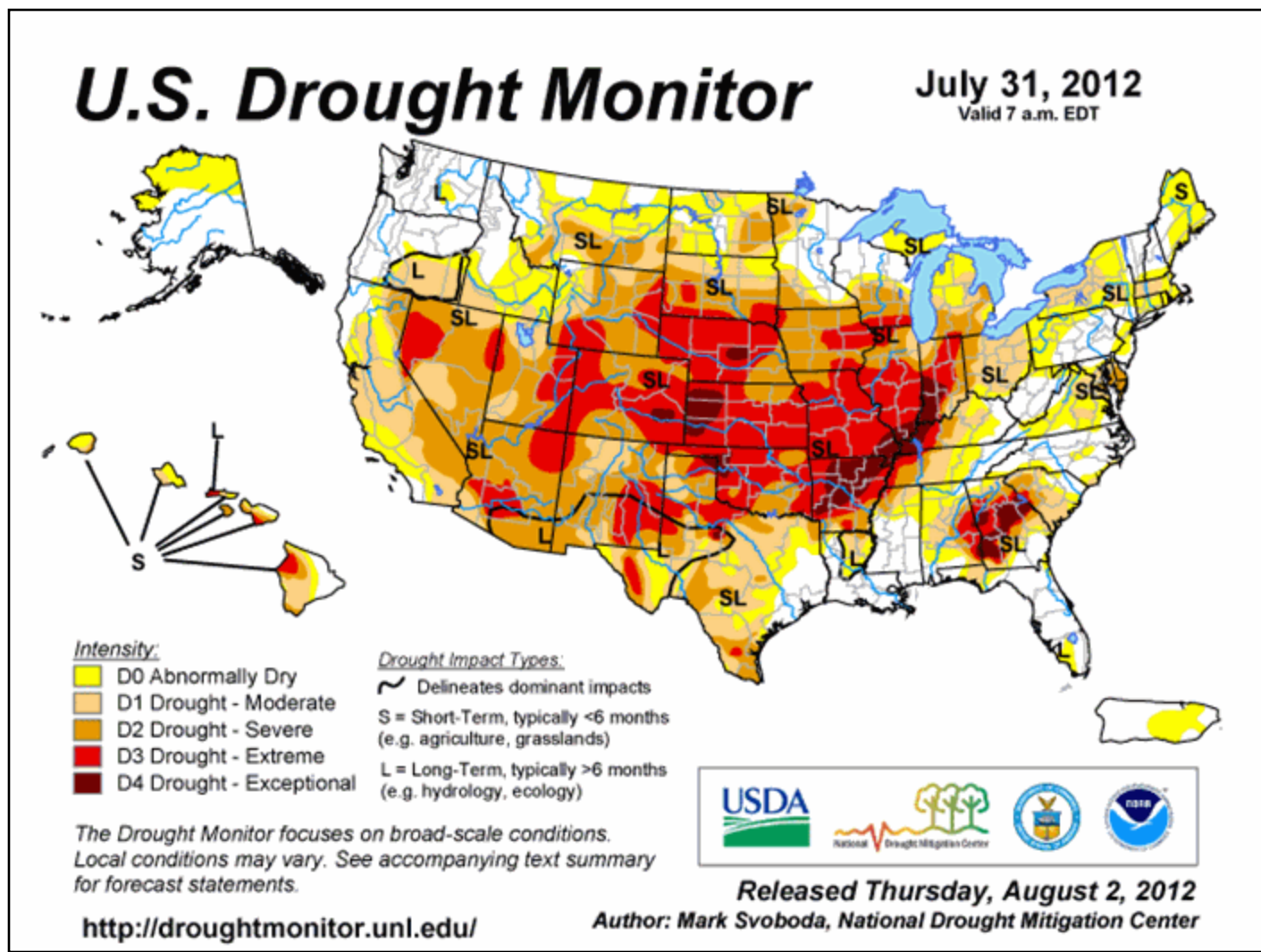
07/17/12 00:00 CST	0	Drought
07/31/12 23:59 CST	0	

Record setting heat and dryness intensified drought conditions over eastern Nebraska during July. Rainfall which was already deficient for the season going into July, became even more sparse during the month with many sites recording less than 1/2 inch and some, including Omaha, barely measuring. In addition, high temperatures consistently rose above 95 degrees with many sites recording at least 5 days with highs above 100 in July. The persistent heat and dry weather caused many rivers to drop to very low flows, including the Platte River which dried up completely upstream of the Loup River. The drought also caused some local wells to dry up or go to very low flow rates. The low water prompted the Nebraska Dept. of Natural Resources to institute irrigation halts for selective waterways including the Loup and Big Blue Rivers. The low river levels and irrigation pressure from underground water sources also caused some municipalities to begin voluntary or mandatory water restrictions. According to the U.S. Drought Monitor, drought conditions reached the Severe intensity on July 17th in northeast Nebraska roughly along and northwest of a line from Columbus to Wayne. The continued hot and dry weather pushed that region into the Extreme category between July 24th and 31st and brought at least Severe drought conditions to the rest of eastern Nebraska by the 24th of July. Extreme drought conditions spread east to a line

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from near Schuyler to Pender by the end of the month. The drought in Nebraska and surrounding states caused some crop prices to reach record or near record levels in July and some dry-land corn that failed to produce kernels was baled or cut as silage. By the end of the month some 38 percent of the soybean and corn crop was considered poor or very poor by the USDA. The Severe to Extreme drought continued and intensified into August.



Drought conditions across the U.S. on July 31, 2012

(NE-Z011) KNOX, (NE-Z012) CEDAR, (NE-Z015) THURSTON, (NE-Z016) ANTELOPE, (NE-Z017) PIERCE, (NE-Z018) WAYNE, (NE-Z030) BOONE, (NE-Z031) MADISON, (NE-Z032) STANTON, (NE-Z033) CUMING, (NE-Z034) BURT, (NE-Z042) PLATTE, (NE-Z043) COLFAX, (NE-Z044) DODGE, (NE-Z045) WASHINGTON, (NE-Z050) BUTLER, (NE-Z051) SAUNDERS, (NE-Z052) DOUGLAS, (NE-Z053) SARPY, (NE-Z065) SEWARD, (NE-Z066) LANCASTER, (NE-Z067) CASS, (NE-Z068) OTOE, (NE-Z078) SALINE, (NE-Z088) JEFFERSON, (NE-Z089) GAGE, (NE-Z090) JOHNSON, (NE-Z091) NEMAHA, (NE-Z092) PAWNEE, (NE-Z093) RICHARDSON

07/17/12 14:00 CST

0

Heat

07/26/12 19:00 CST

0

A large dome of high pressure aloft brought a prolonged heat wave to eastern Nebraska and western Iowa. High temperatures during the stretch of hot weather consistently climbed into the upper 90s to a little over 100 degrees, peaking on July 22 through the 25th when highs climbed to 100 to 105 degrees over much of the region. Most locations had 4 to 7 days during this stretch when the high temperature climbed above 100 degrees. Dew points during the stretch of hot weather were not excessively high for the season, generally in the 60s and even some 50s during the hottest part of the day, thus heat index values were not that much different than the actual temperatures at peak heating. Morning lows did drop off into the 60s several mornings over this time, which provided some early day relief from the heat early in the event, however toward the end lows were more in the 70s and Omaha Eppley even had one morning that got no cooler than 84. Several record highs and a few record warm minimum temperatures were set during the heat wave. The heat wave was tempered somewhat late on the 26th as a cool front brought a shift to northwest winds and scattered thunderstorms.

Storm Data and Unusual Weather Phenomena - July 2012

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The rain for some areas was the first measurable precipitation for the month, but many locations received little or none continuing one of the driest Julys on record up to that point.				

THURSTON COUNTY --- 0.9 SW MACY [42.11, -96.36]

07/25/12 16:48 CST	0	Thunderstorm Wind (EG 52 kt)
07/25/12 16:48 CST	0	Source: County Official

Thunderstorm wind gusts were estimated to have reached around 60 mph in the Macy area.

DODGE COUNTY --- 4.2 S DODGE [41.66, -96.88]

07/25/12 17:00 CST	0	Hail (1.00 in)
07/25/12 17:00 CST	0	Source: Public

The hail was accompanied by thunderstorm wind gusts estimated at around 60 mph.

DODGE COUNTY --- 4.2 S DODGE [41.66, -96.88]

07/25/12 17:00 CST	0	Thunderstorm Wind (EG 52 kt)
07/25/12 17:00 CST	0	Source: Public

Thunderstorm wind gusts estimated at around 60 mph downed some tree branches and flattened corn in the area. The wind was accompanied by quarter-size hail.

Isolated severe thunderstorms were able to develop in the late afternoon of the 25th and continue into the evening hours. The storms developed along a weak cold front under a plume of mid level moisture. The right entrance region of a mid level jet also provided forcing for storms to continue into the evening. However, wind shear was weak and thunderstorm outflow quickly cutoff any inflow allowing the storms to weaken. Before the storms weakened, a few produced severe winds or hail.

SEWARD COUNTY --- 3.0 NNE KRUTZ ARPT [40.96, -97.06]

07/26/12 18:45 CST	0	Hail (0.88 in)
07/26/12 18:45 CST	0	Source: Public

SEWARD COUNTY --- 0.9 SW GARLAND [40.94, -96.99]

07/26/12 18:50 CST	0	Hail (1.00 in)
07/26/12 18:54 CST	0	Source: Trained Spotter

Hail around 1 inch in diameter was reported in the Garland area. The hail was accompanied by winds estimated at around 60 mph. The wind and hail flattened some crops nearby.

SEWARD COUNTY --- 0.9 SW GARLAND [40.94, -96.99]

07/26/12 18:54 CST	0	Thunderstorm Wind (EG 52 kt)
07/26/12 18:54 CST	0	Source: Trained Spotter

One inch hail was accompanied by thunderstorm winds estimated at around 60 mph. The wind and hail flattened some crops in the area.

LANCASTER COUNTY --- 1.3 WNW MALCOLM [40.91, -96.87]

07/26/12 19:06 CST	0	Hail (1.00 in)
07/26/12 19:06 CST	0	Source: Public

The hail was accompanied by winds that were measured at 53 mph by home weather equipment.

A few thunderstorms developed along a very weak cold front over southeast Nebraska. Moderate instability was in place with surface dewpoints in the upper 60s to lower 70s south of the front. Once convective temperatures were reached, a few severe thunderstorms developed.